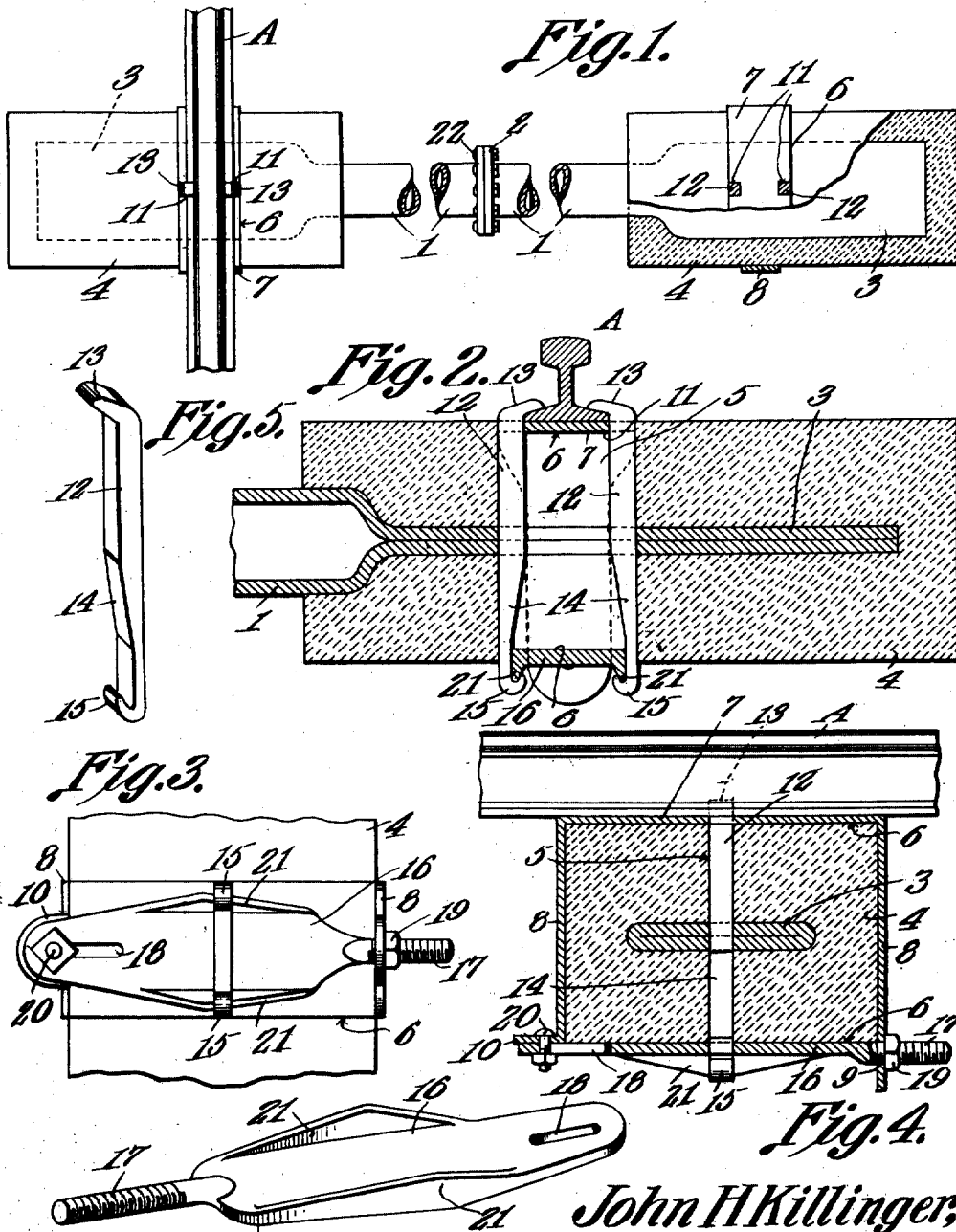


J. H. KILLINGER.
RAIL FASTENER.
APPLICATION FILED JULY 24, 1911.

1,003,113.

Patented Sept. 12, 1911.



Witnesses

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Fig. 6.

by

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UNITED STATES PATENT OFFICE.

JOHN H. KILLINGER, OF COLEBROOK, PENNSYLVANIA.

RAIL-FASTENER.

1,003,113.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Original application filed May 20, 1911, Serial No. 628,467. Divided and this application filed July 24, 1911. Serial No. 640,171.

To all whom it may concern:

Be it known that I, JOHN H. KILLINGER, a citizen of the United States, residing at Colebrook, in the county of Lebanon and State of Pennsylvania, have invented a new and useful Rail-Fastener, of which the following is a specification.

This invention relates to rail fasteners and is more particularly a division of an application filed by me in the United States Patent Office on May 20, 1911, Serial No. 628,467.

One of the objects of the invention is to provide improved means whereby rails may be fastened upon a tie of the type disclosed in my application above mentioned, the locking means used in connection with the rail fasteners being concealed under the tie at a point where it cannot be easily reached by unauthorized persons.

A further object is to provide fastening means which can be readily applied and which serve to grip the rails.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of a tie embodying the present improvements, portions of the metallic connections being broken away and one of the blocks being shown partly in section, there being a rail upon the other block. Fig. 2 is an enlarged central vertical section through one end portion of the tie and showing a rail secured in position thereon. Fig. 3 is a bottom plan view of a portion of the tie and of the rail fastening means thereon. Fig. 4 is a vertical transverse section through one end portion of the tie and showing the rail fastening means partly in section and partly in elevation. Fig. 5 is a perspective view of one of the

rail engaging devices. Fig. 6 is a perspective view of the wedging member or key of the rail fastening means.

Referring to the figures by characters of reference 1 designates a pipe section having a collar 2 at one end while its other end is flattened, as indicated at 3 and is embedded within the middle portion of a concrete block 4, said flattened portion lying parallel with the top and bottom faces of the block. A slot 5 extends from the top to the bottom of the block adjacent the center thereof and also through the flattened portion 3 of the pipe 1, there being transverse grooves 6 in the top and bottom faces of the block and of the same width as the slot. These grooves extend throughout the width of the block and the groove in the upper face of said block is adapted to receive a wear plate 7 having arms 8 extending downwardly therefrom along the sides of the block, one of these arms projecting below the bottom of the block and having an opening 9 therein while the other arm has its lower end portion extended laterally to form an apertured ear 10. Wear plate 7 has notches 11 formed in opposite sides thereof and registering with the slot 5, the distance between these notches being equal to or slightly less than the width of the base of the rail A to be mounted on the tie. The notches 11 are designed to receive jaws 12, the length of each jaw being greater than the distance between the upper and lower faces of the block 4, and each of these jaws being provided, at its upper end, with a rail engaging head 13 while its lower portion is reduced in thickness, as indicated at 14 and merges into a hook 15. The notches 11 are of such size as to readily receive the hooks 15 when the jaws are being inserted into the slots 5 and, when the heads 13 of the jaws rest upon the base flanges of a rail mounted on the wear plate 7, the hooks 15 are supported below the lower face of the block 4, as clearly indicated in Figs. 2 and 4. The hooked lower ends of the jaws are adapted to be engaged by a wedging key 16 having a threaded stem projecting from one end while a slot 18 is formed longitudinally within the other end portion thereof. Stem 7 is adapted to project through the opening 9 and to be engaged by

a tightening nut 19, while the slot 18 is designed to register with the opening in the ear 10 and to receive a bolt 20 extending downwardly from said ear. The sides of the member 16 diverge from the stem 17 and formed on these diverging edge portions are flanges 21 having inclined edges.

As hereinbefore stated the tie is made up of two similar sections, each of the sections being of the construction hereinbefore described. In assembling the parts of the tie, the flanges 2 are brought together and secured by means of bolts 22 or the like, either grooved face of each block 4 being placed uppermost. The wear plates 7 are then placed in the upper grooves 6 so that the arms 8 will extend downwardly along the sides of the blocks and the notches 11 will register with the slots 5. The rails to be fastened on the tie are then placed on the wear strips 7 after which the hooked ends 15 or the rail fastening jaws are inserted through the notches 11 and into the slots 5 so as to bring the heads 13 of the jaws into engagement with the base flanges of the rails. The jaws in each block are then shifted so as to bind tightly upon the rails, by inserting the wedge plate 16 between the lower hooked ends 15 of the jaws and with the flanges 21 engaging said hooks. By shifting the plate 16 longitudinally by means of the nuts 19 on stem 17, the inclined edges of flanges 21 will ride upon the hooks 15 and draw the jaws 12 downwardly while, at the same time, the diverging sides of the plate will push against the lower ends of the jaws and cause them to move apart, the end walls of the slot within the flattened portion 3 of the pipe 1 constituting fulcrums on which the jaws work. The upper end portions of the jaws will thus pull downwardly on the rails and at the same time clamp the rails therebetween. After the proper adjustment has been effected, the bolt 20 can be tightened within slot 18 and the road bed tamped about the tie block so as to conceal the plate 16 and the lower portions of the arms 8.

Should the upper portion of either block 4 become chipped or otherwise rendered undesirable for use, the tie section can be unfastened from the other section of the tie and reversed after which the wear plate can be placed in the uppermost groove and the parts reassembled in the manner hereinbefore set forth.

It is to be understood that each of the jaws 12 is to a certain extent resilient so that, after the jaws have been tightened in the manner hereinbefore set forth, they yieldingly engage the rails so as to hold them firmly irrespective of any contraction or expansion of the parts or any jolting which may be produced by the movement of a train over the rails. The pipe connection between the blocks permits any necessary

resiliency of the tie. Plate 16 and the parts depending therefrom constitute means for preventing the tie from creeping after having once been set upon the road bed.

What is claimed is:—

1. In a railway tie, the combination with a rail supporting block having a slot extending downwardly therethrough, of a wear plate extending across the block and having opposed notches registering with the slot, jaws insertible through the notches and into the slot, said jaws having rail engaging heads at their upper ends and key engaging portions at their lower ends, a key interposed between and engaging said portions, and means for shifting the key to move the jaws longitudinally and to spread apart the lower end portions thereof.

2. In a railway tie, the combination with a rail supporting block having a slot extending downwardly therethrough and transverse grooves within the block at the ends of the slot, of a wear plate seated within one of the grooves and having opposed notches registering with the slot, arms depending from said wear plate and downwardly along the sides of the block, jaws insertible through the notches and into the slot, each jaw including a rail engaging head at its upper end and a hook at its lower end, and means insertible between and engaging the hooks for simultaneously shifting the jaws longitudinally and spreading apart the lower ends thereof.

3. In a railway tie, the combination with a rail supporting block of plastic material, and a metallic member anchored therein, there being a slot extending downwardly through the block and metallic member, said block having transverse grooves at the ends of the slot, of a wear plate removably seated in the upper groove in the block, arms depending therefrom, said plate having opposed notches registering with the slot, rail fastening jaws insertible through the notches and into the slot and having rail engaging heads at their upper ends and hooked portions at their lower ends, a key adjustably connected to the arms and movably seated within the lower groove, and means for shifting said key longitudinally to simultaneously move the jaws downwardly and to spread apart the lower ends thereof to bind the upper ends of the jaws upon the rail.

4. The combination with a rail supporting block having a slot extending downwardly therethrough, of a wear plate upon the upper face of the block and having opposed notches registering with the slot, arms extending downwardly from the plate, rail engaging jaws insertible through the notches and into the slot and having rail engaging heads at their upper ends and hooked at their lower ends, a plate adjustably engag-

ing the arms and extending transversely
under the block, said plate having diverging
flanges engaging the hooked portions, said
flanges being formed with inclined working
5 edges and means for adjusting the plate
longitudinally.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

JOHN H. KILLINGER.

Witnesses:

CLAYTON B. KEENER,
ELIAS E. RISSEK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."